TABLE I. Comparison of PNH in Different Ethnic Populations

	Western		Chinese	
	Tudela et al. [4]	Hillmen et al. [3]	Dunn et al. [5]	Present report
Number of patients	21	80	40	9
Median age at diagnosis (years)	38	42	32	32
Neutropenia	14%	55%	62.5%	44%
Thrombocytopenia	29%	80%	52.5%	66%
Aplastic anemia	28%	29%	17.5%	22%
Acute myeloid leukemia	5%			
Thrombosis	62%	39%	7%	11%
Death attributable to PNH	14%	58%		
Spontaneous remission		15%		

Primary Non-Hodgkin's Lymphoma of the Liver in a Patient With Hepatitis B, C and HIV Infections

To the Editor: We report on a case of hepatic non-Hodgkin's lymphoma (NHL). The patient was infected with HIV, a well-established risk factor for NHL, and with B (HBV) and C (HCV) hepatitis viruses which could be implicated here as local factors in lymphomagenesis. This association appears extremely rare but merits discussion.

Case Report

A 34-year-old man was admitted to our hospital for investigation of general status impairment and hyperthermia. He was homosexual and an intravenous drug user. This patient had been known as seropositive for HIV, HBV, and HCV since 1986 and had already developed cutaneous lesions of Kaposi sarcoma and *Pneumocystosis carinii* pneumonia. He received zidovudine, lamivudine, and trimethoprime-sulfamethoxazole. Recent weight loss (>10%), and episodes of fever (about 40°C) and sweats were noted. ECOG-performance status was 2. Physical examination was unremarkable, with the exception of jaundice and painful hepatomegaly. The hemogram showed 3.9 10^9/1 WBC with 47% PMN, 95 g/l hemoglobin, and 282. 10^9/1 platelets. CD4 lymphocytes were at 0.038. 10^9/1. ESR was at 124 (first hr), and CRP 204 (<12). LDH concentration was 1,300 IU/1 (<450 IU/1), bilirubin 10 umol/1, gamma-glutamyl transferase 210 (< 49 IU/1), alkaline phosphatase 366 (<300 IU/1), aspartate aminotransferase 37 (<35 IU/1). PCR for HCV RNA was positive in the blood. Abdominal ultrasonography evidenced a unique hypoechogenic nodule of $12 \times 9 \times 11$ cm in the liver associated with spleen enlargement. CT scan confirmed these data without showing intraabdominal lymphadenopathies. This technique permitted guide-biopsy specimen collection. Histologic diagnosis was B (CD45+, CD20+, and CD3−) NHL without possibility of more precise classification. The specimen was totally invaded by the lymphoma, and no remaining hepatic tissue was analyzable. Other explorations included normal findings at bone-marrow biopsy, thoracic X-ray, thoracic and cerebral CT scans, and CSF cytology.

In the absence of simultaneous evolutive opportunistic infection, the patient was treated with a low-dose CHOP regimen.

Discussion

The liver is an uncommon site for primary NHL. The diagnosis is often difficult, with numerous postmortem discoveries [1]. Abdominal pain with or without jaundice and palpable hepatomegaly are the most frequent revealing symptoms [1,2]. Elevation of LDH without increased alpha-fetoprotein or carcinoembryonic antigen represents a valuable biologic feature [1,2]. Imaging procedures evidence a usually solitary nodule of varied echogenicity and density, and permit guided biopsy [1,2]. Histology remains the only means of diagnosis. Most NHL correspond to large-cell type and demonstrate a B immunophenotypic profile [1,2]. Nevertheless, histologic typing, as in our report, is not always possible [2]. This localization is especially seen in immunocompromised patients as HIV carriers [1,2]. A recent review of the literature found 15 published cases of hepatic NHL in HIV-infected patients [2]. On the other hand, HBV and HCV are well-known causes of liver cirrhosis which can evolve into carcinoma. Recently, some cases of hepatic NHL have been described in HCV carriers, mainly at the cirrhosis stage [3–5]. Possible roles of HCV itself, cirrhosis, or therapeutic interferon in lymphomagenesis remain hypothetical [5]. In addition, another virus, EBV, can be found in malignant cells of some HIV-associated NHL [2]. Chemotherapy, including CHOP-like regimens, may be proposed for selected patients [1,2]. Prognosis is generally severe with short survival, especially in AIDS patients or in cases with marked cirrhosis.

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Frameshift CD 11 (−T) β-Thalassemia Mutation

To the Editor: We read with interest the article entitled "Haplotype Analysis of the Mexican Frameshift CD 11 (−T) and −28 A→C β-Thalassemia